SCIENTIFIC AMERICAN.

THE ADVOCATE OF INDUSTRY AND ENTERPRISE, AND JOURNAL OF MECHANICAL AND OTHER IMPROVEMENTS.

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THE
SCIENTIFIC AMERICAN,
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RUFUS PORTER,—Editor.

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Illustration by Comparison.

There's a difference in color, and a difference in taste,
  There's difference in feeling, and difference in mind,
There's difference in objects, and difference in sound,
  And difference vast marks the whole of mankind.

Some people are always as "happy as a clam,"
  While others are downcast—as "sad as a dog"—
As "weak as a cat," or as "sick as a horse,"
  And others again are as "solid s a log."

The pockets of some are as "tight as a drum,"
  And thousands of others will "leap like a riddle,"
Some people don't care what old breeches they wear,
  While others go looking as "fine as a fiddle."

Some are as full of conceit as "an egg is of meat,"
  While others are modest—as "gentle's a lamb;"
And some of the fair are as "timid's a hare"—
  Others "bold as lion," and "don't care a d—n!"

On the stage of this world there is often one hurl'd,
  With fortune upon him—as "rich as a Jew;"
But thousands there are almost naked and bare,
  Whom favor ne'er fondled, nor fortune e'er knew.

Some are "dull as a hoe," others "sharp as a razor,"
  Some as "blind as a bat," others "bright as a button,"
Some as "yielding as putty," some "stiff as a poker,"
  Some "sweet as molasses," some "rank as old mutton."

The spirits of some are as "heavy as lead,"
  While others are constantly "light as a feather;"
The hearts of some people are naturally soft,
  And others, many others, are as 'tough as sole leather.'

There are hundreds I know who are "crazy as loons,"
  And hundreds, likewise, who are "quiet as mice;"
The feelings of some are as "warm as true love,"
  While thousands and thousands are cold "cold as ice."

The tongues of some people cling fast to their mouths,
  While others run smoothly and softly and "slick;"
Some people, by nature, are "thin as a shad,"
  And some are as fat, and as "full as a tick."

"You are a queer chicken," said the hen to a hawk which she had hatched among her brood.

"I know I am," said the hawk, "but that is no reason why I should be *hen pecked*."

It is estimated that the annual consumption of coffee and tea, exceeds 300,000,000*lbs*.

THE INDEPENDENT DOOR-LOCK.

Fig. 1.

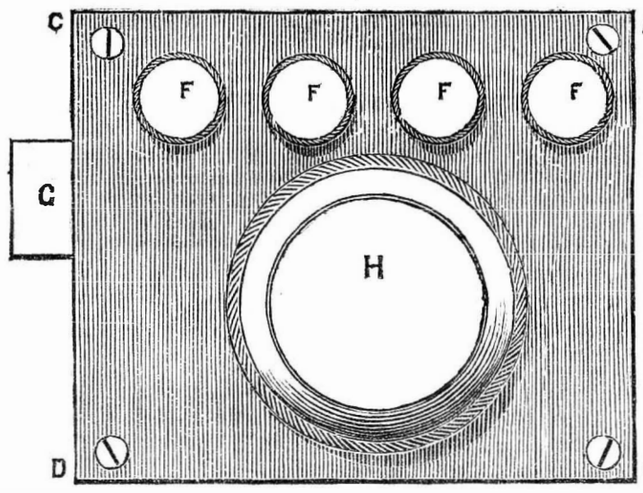
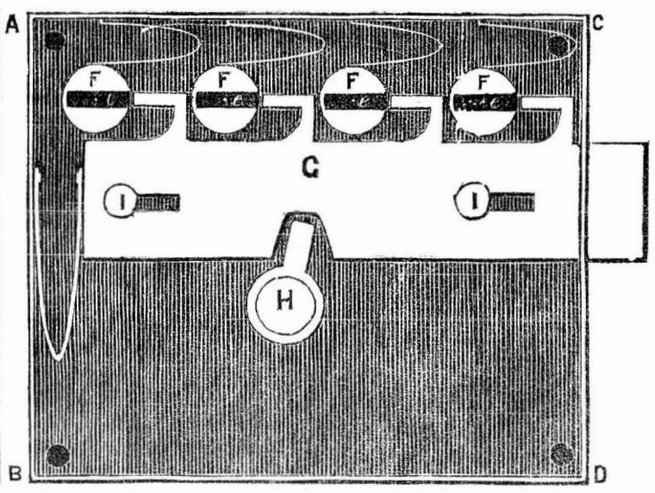


Fig. 2.



INTRODUCTION.—Among the immense variety of new and variously constructed locks,—some of them complicated and expensive—which have been introduced within the few years past, none have appeared calculated to combine with perfect safety, convenience of management and elegance of appearance, all of which are highly important in locks for the doors of modern elegant dwelling houses. Thousands have felt convinced of the awkward appearance of the proprietor and occupant of a dwelling, waiting several minutes at his own door for permission to enter; and thousands have been apprehensive that their houses might be entered by burglars, through the neglect of servants to securely fasten the doors. But the lock here presented, while it allows the ready admittance of the proprietor without waiting for the servants to open the door, affords to a stranger no greater chance than one in five hundred millions at each trial. This is called the Independent Lock, on account of its being independent of anything in the form of a key; and it may be either inserted as a mortice-lock, or attached to a metallic plate on the face of the door, as represented in the engraving.

EXPLANATION.—Fig. 1 shows the appearance of the front of the lock, and fig. 2, a sectional view of the internal construction. A B C D represents the extent of the plate to which the several parts are connected. F F F F are four horizontal round sliding bolts with knobs in front, and constitutes the security of the lock. G is the bolt, and H is the handle knob by which the bolt is withdrawn. The bolt is constructed with four elevated hooks, and each of the round slides has a hole, *c*, in the side thereof, into which the corresponding hook must enter whenever the bolt is drawn back. Each slide has five or more small notches or grooves (not represented) cut in its periphery, extending round it in the vicinity of the plate; and a small spring being attached to the plate presses gently into some one of the grooves of each slide, merely to hold the slide in its place, but not so as to prevent the moving of the slide when required, in which case the spring slides over the ridges and takes position in another groove. In this way, each slide is capable of five or more different longitudinal positions, besides ten or more positions circularly; and yet it will be seen that of all these positions, each slide must be placed in one precise position to enable a person to remove the bolt so as to open the door. It is not necessary that in 100,000,000 locks any two should be adjusted alike so as to be opened by the same rule. The owner of a lock, and members of the family, will of course know in what position to place each slide, in order to withdraw the bolt, and in ordinary not more than one of them will be required to be moved; but if it is discovered or suspected that the secret of the lock is known where it should not be, the slides may be readily transposed, so that those well acquainted with the lock could not possibly unlock the door without new instructions. The cost of these blocks will not exceed three dollars. Only one has been yet made, but we would contract with some person to manufacture them per quantity.

DECLIVITY OF RIVERS.—A very slight declivity will suffice to give the running motion to water. Three inches per mile, in a smooth straight channel, gives a velocity of about three miles an hour. The Ganges which gathers the waters of the Himlaya mountains the loftiest in the world, is, at eighteen hundred miles from its mouth, only eight hundred feet above the level of the sea; that is about twice as high as St. Paul's church in London, (or the height of Arthur's Seat, near Edinburg) and to fall these eight hundred feet, in its long course, the water requires more than a month. The great river Magdelena, in South America, running for a thousand miles between two ridges of the Andes, falls only five hundred feet in all that distance. Above the commencement of the thousand miles, it is seen descendind in rapids and cataracts from the mountains. The gigantic Rio de la Plata, has so gentle a descent to the ocean, that in Paragua, fifteen hundred miles, from its mouth, large ships are seen, which have sailed ugainst the current all the way, by the force of the wind alone; that is to say, which, on the beautifully inclined plain of the stream, have been gradually lifted by the soft wind, and even against the current, to an elevation greater than that of our lofuest spires.—*Arnot's Physics.*

A MOTHER IN PANTALOONS.—A marriage was on the point of being celebrated in the office of the mayor at Algiers, when the clerk asked if the bridegroom's mother was present. A sonorous "yes" immediately came from a person of ordinary height, dressed in citizen clothes, and looking like one in the enjoyment of health and strength. "Well," said the magistrate, seeing no female but the bride, "call her; her presence and signature are both necessary to verify the act of marriage. The court was instantly astounded by seeing the individual who had just answered for the mother come forward with a military salutation. But the mayor gently thrust him back, and again called the mother. "Here," said the same voice, in a military tone and the cleverest enunciation. "I called the mother, not you, sir." "In that case," was the brief reply, "you have not far to go; I am she, one of the persons you are about to marry, is my son! My name is Marie de L——; I have seen thirty years' service—ten campaigns—and have the grade of sergeant major. Here are my papers; you'll find my engagement among 'em, an authority to wear men's clothes, my brevet and my title to a state pension." The magistrate, who was still amazed by the masculine voice he heard, examined the papers, identified the sergeant-major, and then performed the marriage ceremony for her son.

LAKE SUPERIOR.—This immense inland ocean is four hundred and ninety miles in length, and is seventeen hundred in circumference; being the largest body of fresh water on the Globe. It contains many islands, one of them, the Isle Royale, is one hundred miles in length, and forty in breadth. Upwards of thirty rivers empty themselves into it, and one curious fact in relation to it is well ascertained, that the quantity of water discharged by the Sault St. Marie, is not one tenth of what it receives from its tributary streams. Evaporation must, the efore, be the pricipal agent in keeping the lake down to its usual level.

A MAGNIFICENT WEDDING.—The marriage of the Dutchess of Olga, daughter of the Emperor of Russia, it is supposed will surpass in magnificence anything of the kind that has taken place in modern times. A correspondent of the Boston Traveller says: A series of grand *fetes* will be given, and continued for three days. The Empress of Russia will be present, and join the throng of crowned heads. These *fetes* will take place at the Emperor's summer palace and garden at Peterhoff, on the borders of the gulf, and two hours' drive from St. Petersburgh. They will be the most brilliant and expensive ever got up in Europe. The artists of every nation have for a long time been employed to contribute their handicraft or talents to render everything unequalled in modern times. It is supposed that among the entertainments there will be a grand review of fifty thousand men. Every regiment of cavalry will have a different colored horse, and every horse of each regiment, even to a spot, will be alike. Such a military display, it is said, cannot be equalled in the world.

SOLAR SPOTS.—CINCINNATI OBSERVATORY, July 6, 1846.—There is a fine specimen of these extraordinary objects now visible on the Sun. It was first discovered on the morning of the 2d, very close to the eastern limb of the Sun, much elongated in form, in consequence of its position on the globe of the Sun. By the rotation of the Sun on its axis, the entire group of spots has been brought nearer to the Sun's centre. The central black core of the principal spot was measured this morning, and found to be nearly 10,000 miles in diameter. The outline is exceedingly broken, with sharp, ragged, toothed edges. The surrounding penumbra is not less than 30,000 miles in diameter. In case these black spots are openings in the luminous atmosphere of the Sun, the cavity now visible is sufficiently large to engulf the entire Earth. There are hundreds of small black spots, of all possible figures, near the central large one.

IBRAHIM PACHA AND HIS DOCTOR'S BILL.—It is perhaps generally known that Ibrahim Pacha spent a few months in the south of France for the benefit of his health, and that an eminent medical man, Dr. Lallemant, left his practice for a considerable time, to attend to the son of Mehemet Ali. Nothing was arranged as to the fees of the M. D., until two or three days before Ibrahim Pacha was to leave, and then he sent 50,000f. ($10,000) to Dr. Lallemant. This sum was not considered satisfactory to Dr. Lallemant, who had been building castles with the munificent sum he expected from the Pacha, and he therefore respectfully submitted that his fees should be estimated at 200,000f. ($40,000.) It was a source of great vexation to Ibrahim to have undervalued the services of Dr. Lallemant, but yet he did not make up the donation named, but sent $20,000 more to the learned Physician, who then declared himself satisfied with the total received, *videlicit* $30,000.

A CRITERION.—A good criterion by which to judge the disposition of a man, is to watch him when he passes some boys at play. A kind man will step out of the way, and let the little fellows have their sport, while a crabbed one will push through the "ring' and spoil their fun.

STRENGTH OF CORDS.—The best mode of estimating the strength of a cord of hemp, is to multiply by 200 the square of its number of inches in girth, and the product will express in pounds the practical strain it may be safely loaded with. For cables, multiply by 120 instead of 200. The ultimate strain is probably double this. For the utmost strength that a cord will bear before it breaks, a good estimate may be formed by taking one fifth of the square of the girth of the cord to express the tons it will carry. This is about double the rule for practice just given and is, even for an ulterior measure, too great for tarred cordage, which is always weaker than white. In cables, the strength, when twisted, is the strength when the fibers are parallel as about three to four.

A FRENCH GIRL'S AFFECTION.—A French girl in writing to her father, now in this country, says: "would that Columbus had never discovered America, since it keeps you so long absent." Such affection is too pure to be accompanied with so hard a wish. But dear little innocent, the thought of an absent parent may, for the time being, have overcome her better judgment. Would that she could meet him upon the unstained land of Columbia. We know her heart would beat in unison with his, and with the spirit of American freedom.

IRON PRESERVED BY GALVANISM.—The Ministry of the Navy, in France, appreciating the incontestible advantages of galvanism for the preservation of Iron, has just ordered that an iron ship cistern, now in the process of construction at Brest, shall be entirely galvanized, as well as a brig of twenty guns, which is about to be built also of iron. This determination cannot but be applauded, since it will prove an important saving in this department of the navy. It is to be hoped that galvanization will become a regular affair, and articles made of copper may generally as advantageously be of iron, and preserved for the future, from oxydation, by the excellent process of M. Sorel.

LEGAL WEIGHT.—The following table of the number of pounds allowed to the bushel of different grains, &c., may be a convenient reference to many:

Wheat, 60; beans, 60; clover seed, 60; potatoes, 60; rye, 56; corn, 56; flax seed, 56; onions, 57; buckwheat seed, 52; salt, 50; barley, 48; castor beans, 56; hemp seed, 44; timothy seed, 45; oats, 24; bran, 20; blue grass seed, 14; dried peaches, 33; dried apples, 22, stone coal, 70.

HOMŒOPATHIC SOUP.—Take two starved pigeons, hang them up by a string in the kitchen window, so that the sun will cast a shadow of the pigeons in an iron pot already on the fire, and which will hold ten gallons of water—boil the shadow over a slow fire for ten hours, and then give the patient one drop in a glass of water every ten days.

CHARACTERISTIC CORRESPONDENCE.—Dear J—. Send me a shilling. Your's, B——.

P. S. On second thoughts, make it *two*.

Dear B——. I have but one shilling in the world —Your's. J——.

P. S. On second thoughts, I want that for dinner.

A LIST OF PATENTS ISSUED FROM THE 10TH FEBRUARY TO MARCH 14TH, 1846.

(Continued from No. 46.)

To Samuel G. Blackman, of Norwalk, Connecticut, for improvement in Straw Cutters: February 10th.

To Jeremiah Essex, of Bennington, Vermont, for improvement in the manufacture of Cotton Batting: February 10th.

To Joseph Laubach, of Harrisburg, Penn., for improvement in Cooking Stoves: Feb. 10th.

To Israel J. Richardson, of New York city, for improvement in portable horse powers: Feb. 10th.

To Charles W. Leet, of Vernon, N. Y., for improvement in Parlor Stoves: February 10th, and ante-dated September 9th, 1845.

To John H. Aldrich and Otis C. Foote, of Rushville, N.Y., for improvement in Washing Machines: February 10th.

To George W. Eddy, of Waterford, New York, for improvement in hollow oven doors: Feb. 10th.

To Joseph W. Webb, of Lockport, N.Y., for improvement in Straw Cutters: Feb. 10th.

To Arnold Palmer, of Lebanon, N. Y., for improvement in Weaver's Temples: Feb. 10th.

To Samuel Graves, of Auburn, N. Y., for improvement in Cooking Stoves: Feb. 10th.

To John Tittle, of Johnstown, Penn., for improvement in Safety Cars for inclined planes: Feb. 10th.

To Elisha S. Snyder, of Charlestown, Virginia, for improvement in Mills for grinding: Feb. 10th.

To Joseph P. Pirsson, Jun., of New York city, for improvement in condensing steam and feeding steam boilers: Feb. 10th.

To Israel J. Richardson, of New York city, for improvement in Straw Cutters: Feb. 10th.

To William J. Jones and Henry C. Smith, of Fairfield, Conn., for improvement in Machines for Sowing Grain, &c., broad cast: February 20th.

To William H. Jennison, of New York city, for improvement in Filters, (assigned to William Kumbell): February 20th.

To Benjamin H. Otis, of Dedham, Mass., for improvement in Mortising Machines: February 20th.

To John Shorb, of Canton, Ohio, for improvement in the mode of operating Safety Valves: Feb. 20th.

To John Drummond, of New York city, for improvement in Candle Moulding: February 20th.

To Rensselaer D. Granger, of Pittsford, Vt., for improvement in Cooking Stoves: February 20th.

To Jonathan Jessop, John Wanbaugh, George W. Ilgenfritz, and James C. Baker, of York, Penn., for improvement in Machines for Cutting and Grinding Fodder: February 20th.

To Albert G. Bristol, of Rochester, N.Y., for Design for Stoves: January 23d, and ante-dated September 22d, 1845.

To Moses Chase, of Boston, Massachusetts, for improvement in Chimney Caps: March 7th.

To George Sweney, of Bucyrus, Ohio, for improvement in Saw Mills: March 7th.

To Rensselaer D. Granger, of Albany, New York, for improvement in Cooking Stove: March 7th.

To Russell S. Morrison and Benjamin B. Cushing, of Frankfort, Maine, for improvement in Saw Mills: March 7th.

To David Hinman, of Brunswick, Ohio, for improvement in Piston for Pumps, Engines, &c.: March 7th.

To Richard Holmes, of Cape May, New Jersey, for improvement in Hatches for Vessels: March 7th.

To Pliny Weller, of Fowlersville, New York, for improvement in Threshing Machine: March 7th.

To William H. Jennison, of New York City, for improvement in Filters, (having asssigned his right, title, and interest in said improvement, to William Kumbel): March 7th.

To Dominique Frick Albert, of Manchester, England, for improvement in the Manufacture of Soap: March 7th.

To William F. Ketchum, of Buffalo, New York, for improvement in Reaping Machines: March 7th.

To Rhodolphus Kinsley, of Springfield, Massachusetts, for improvement in Mortise Latches for Doors: March 7th.

To John H. Davis, of Lumberville, Penn. for improvement in Door Locks: March 7th.

To Jacob K. Vaughan and Evan Henry Everman, of Philadelphia, Pennsylvania, for improvement in Manufacture of Soap: March 7th.

To Jas. Putnam, of Hamilton, N. Y. for improvement in Seed Planter: March 7th.

To Francis B. Pye, of New York City, for improvement in Reaping Machines: March 7th.

To Daniel Hunsicker, of Hartleton, Penn. for improvement in Pumps for Raising and Measuring Liquids: March 7th.

To Amos Call, of Springfield, Mass. for improvement in Fastenings for Doors: March 7th.

To Jeremiah Darling, of Adrian, Michigan, for improvement in Reaping Machines: March 7th.

To Frederick H. Bartholomew, of New York City, for improvement in Hydrants: March 7th.

To Solyman Merrick, of Springfield, Mass. for improvement in Feeders for Screw Machines: March 7th.

To Nicholas U. Chafee, of Charleston, S. C. for improvement in the Manufacture of rosin and spirits of turpentine: March 14th.

To John Blue, of Covert, New York, for improvement in Belts for conveying Straw and Grain: March 14th.

To Starr Fairchild, of Trumbull, Ct. for improvement in Hanging Carriages: March 14th.

To John G. Brant, of Cumberland, Maryland, for improvement in Conveying, Cleaning, and Assorting Coal: March 14th.

To Denison Williams, of Albany, N. Y. for improvements in Dyeing Hair, Wools: March 14th.

To Ezra Ripley, of Troy, New York, for improvement in Tea Kettles: March 14th.

To William D. Andrews, of New York City, for improvement in the Centrifugal Pump: March 14th.

To Thomas C. Clarke, of Philadelphia, Penn. for improvement in Stopcocks: March 14th.

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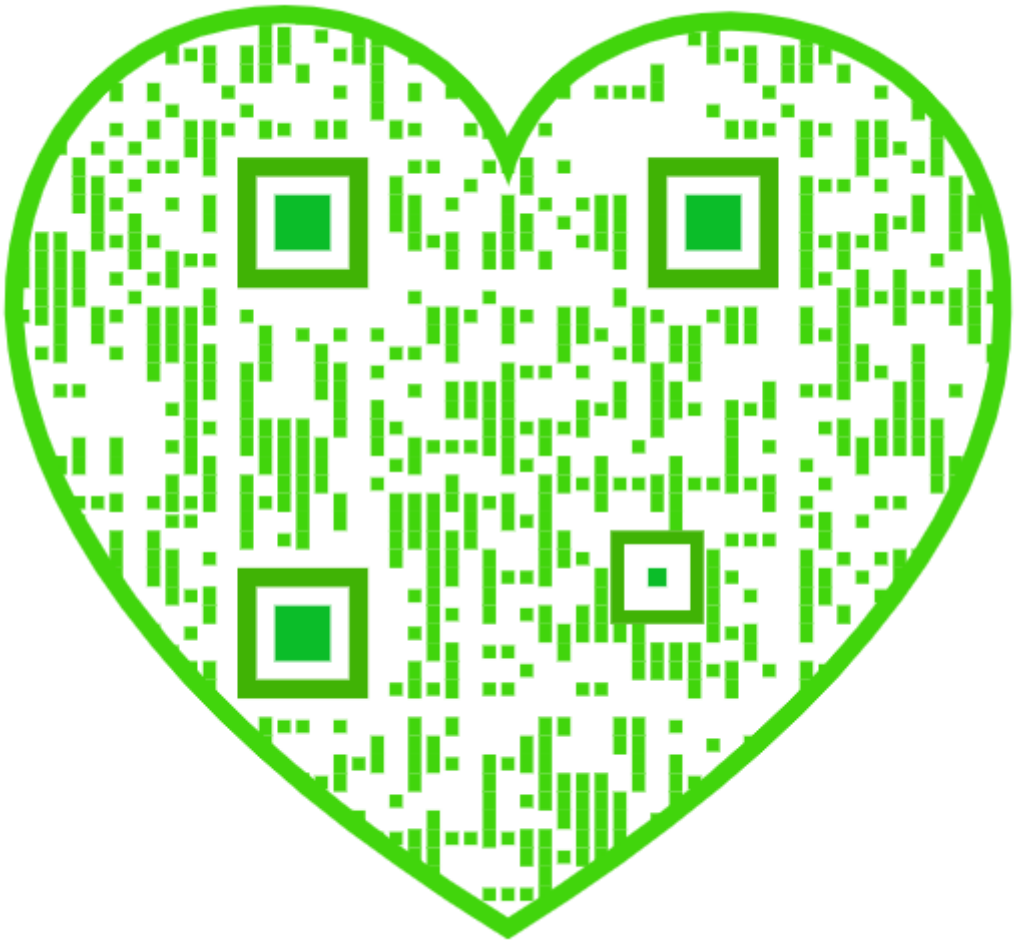
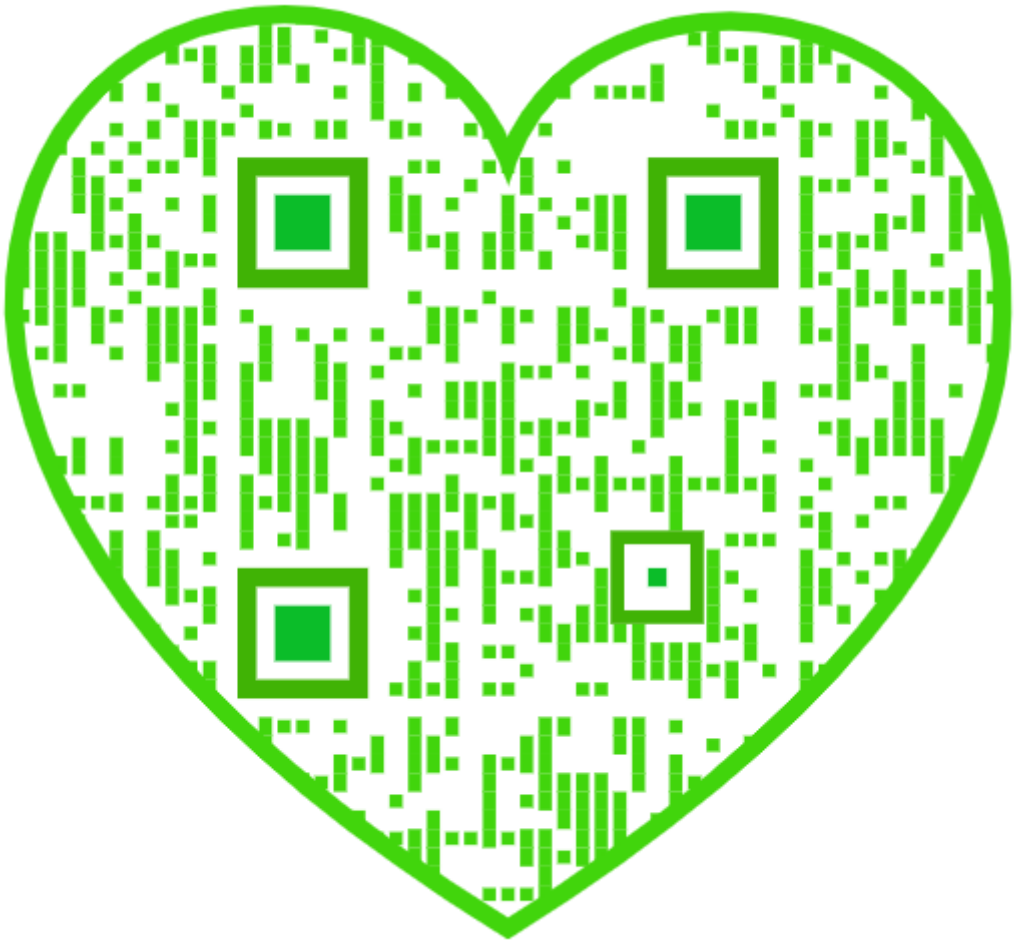




SCIENTIFIC AMERICAN

NEW-YORK, THURSDAY, AUGUST 13.

BACK NUMBERS.—We shall give information concerning our arrangements on this subject, in our next.

Drawings of machinery, engraving on wood, and lithographic drawings, neatly executed, at the lowest prices, at this office.

POST MASTERS—Who receive this paper, will confer a special favor by mentioning the subject occasionally to scientific mechanics. The aid, also and influence of all our kind patrons, in extending the notice and circulation of this paper, is most respectfully solicited.

THE IRON WITCH.—This new, unique and majestic steamer, made her first trip to Albany last week, making the passage up in nine hours and twenty-three minutes. Her arrival at Albany was announced by the firing of cannon at several points, and the loud greetings of multitudes assembled on the piers. The hull of this boat is built entirely of iron, 230 feet in length, 27 feet beam, and 13 feet depth of hold: breadth of deck 58 feet. She may be said to be three stories high, having three cabins or saloons, each 175 feet in length and 28 feet wide, without break or interruption. The engines and machinery are made of wrought iron throughout, and are placed in the hold, which circumstance contributes much to the appearance as well as convenience of the vessel. The cylinders are sixty inches in diameter, with five feet stroke. The speed of this vessel establishes the point in theory for which we have often contended, that there is no advantage gained by the use of paddle-wheels of very large diameter; the wheels of the Iron Witch being only 18 feet 6 inches diameter, and making about 30 revolutions per minute.

GRANITE PAVEMENTS.—The new pavement of granite blocks in State street Boston, is much admired and approved, and appears likely to prove much cheaper eventually than the uncouth old fashioned pebbles. The blocks are judiciously arranged so that all the seams or interstices run diagonally across the street, thus evading the danger of having the seams worn much faster than the faces of the blocks The paving of a section of Broadway in this city on the same plan is now in progress, and may probably prove perfectly satisfactory. We can not yet fully understand the propriety, however, of employing blocks of so small a size and surface, when larger blocks would be more consistent with both economy and permanency. We believe the experiment has never been made with large blocks, and it may be deemed imprudent to venture, all at once, on so wide a digression from the old rattle-te-bang sort and fashion of street paving.

AN INVOLUNTARY PASSENGER.—While the steamboat Planet was lying at Portsmouth Ohio, a few days since, and about to proceed down the river a little girl went on board and while engaged with some of the children of passengers on board, the boat started off and she was compelled to remain on board. No notice was taken of her, and on the arrival of the boat at Cincinnati, she went on shore and her fellow passengers dispersing, she was left alone in a strange city, and a long way from home. She said nothing to the officers of the Planet but started off alone in search of a homeward bound boat; but not finding any, she was observed crying bitterly, by one of the police, who brought her to the Mayors' office, and on hearing her story she was provided with refreshments, and taken on board the Colorado bound for Pittsburgh, and probably returned safely to her anxious friends.

MORE FOLLY.—The chairman of the committee to whom the subject had been referred, recently made a report accompanied by a bill granting to Ira Whitney and his associates for the construction of a railroad to Oregon, all the public lands within 30 miles each side of it, and asked that they be printed. The committee had been unanimous in the report, but Mr. Benton violently opposed even the printing of the report, and denounced the whole scheme as ridiculous on the ground that *somebody* had said that such a railroad was *impracticable.* This is precisely the same plea—though more foolishly applied,—that a Pennsylvania legislature once opposed to Evan's project of railroad and locomotive engines. We have usually been accustomed to esteem Mr. Benton as a man of passable common sense, but in this age of intelligence and practical experience such a stupid plea would disgrace even a schoolboy of ten years. On the subject of the expediency of making the grant in question, we have nothing to say: but such a plea on such an occasion by a Member of an American Legislature in the middle of the 19th century, deserves no less than the contempt of every friend of scientific enterprise.

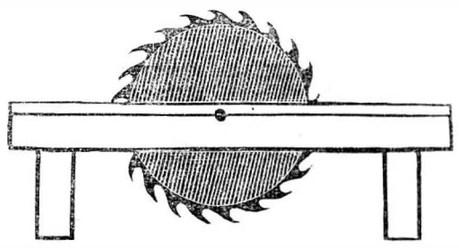
FROM THE ARMY.—Advices from Matamoras up to July 20th, represent that Gen. Taylor was sending forward his troops as fast as he could find transportation for them. The troops had already possessed themselves of Lamargo without resistance. The troops will proceed to Monterey without delay, and it is believed that they will meet with but little resistance even there. The rumor that the war is popular in that country is mere moonshine, as the unmolested progress of the troops already evinces. Should Paredes venture to meet them with the principal strength of his forces, there will be some hard fighting of course. But he is evidently aware that should he make such a move there will be trouble behind him which will require his speedy return. Of the Santa Fe expedition, we have no definite news of recent date.

Jumble.

A schoolmaster in Varmount in writing the word usually, usually spells it "*youzyoually.*" He is said to be the same man who spells *kauphphy* so *bewchifully.*——Hill's Patriot says that Gen. Scott is *soup-per-se-dead.* The wit is well enough, but the sentiment is flat.——The Governor of Waldek, in Germany, has prohibited the issuing of marriage licenses to persons of intemperate habits.——A western paper, in announcing a steamboat explosion, very delicately observes, "Three persons were slightly killed."——The American Bible Society has forwarded four thousand copies of the New Testament to the army in Texas and Mexico.——The income of Queen Victoria amounts to $48,076 per week, $6,868 per day, or about $282 per hour.——Dayton, O., is said to contain upwards of ten thousands inhabitants ——The copper ore of Lake Superior readily commands $400 per ton.——Two thousand female teachers are wanted in Kentucky.——An indolent boy being asked by his teacher which of the boys came latest to school, replied that he did not himself arrive early enough to see.——A girl who rejected the suit of a gardener was thought to be too *no*-ing, in consideration of the *dignity* of her suitors's profession.——Humbugs are said to partake of the nature of the polipus: the more you cut them up, the faster they grow.——Speaking of cabbages, John Smith thinks the town of *Barn-stable* must be a fine place for live stock.——A piece of block tin being rubbed on a razor-strop, is said to produce a keener edge than the best metallic paste.——A surveyor of highways, seein a large quantity of marsh-mud thrown upon a road thought it was repaired *add-mire-ably.*

Science of Mechanics.

(Continued from No. 46.)



CIRCULAR SAWS.—It was many years after the invention and introduction of circular saws in this country, before mechanics would be convinced that there was any utility in them; and even those who were induced to make a trial of them, generally abandoned them after a short time, as requiring more labor and attention to keep them in repair than the value of the use of them; and even now, after this article has come into general use and is considered among the indispensables, there are many, and perhaps the most of those who have the management of them, who still seem to be totally ignorant of the true theory and scientific principles of managing the circular saw: they only know to imitate generally, those few who have by the aid of science and native genius succeeded in reducing the management of these articles, to a tolerable degree of perfection. In a majority of cases in which we have observed the management of circular saws, we have found that from one half to three fourths of the power applied to driving them was worse than wasted;—we say *worse,* because the saws and machinery were actually injured by the application of a useless surplus of power. The most common error consists in giving the saw too great speed, to remedy a deficiency occasioned by the irregularity, and want of uniformity in the teeth of the saw. In most cases, 300 pr.—a little short of one horse power—is amply sufficient for driving an ordinary 12 inch saw, for slitting-seasoned planks; yet it is not uncommon to see three times the power expended for that purpose, and the work but poorly done at that. Saws are often driven 2000 revolutions per minute, when 300 would do much better. It often appears, when a saw is driven with violent speed, that not more than four or six teeth of the saw do any execution, while the others by their friction, use up the power to no purpose: or if all the teeth are of uniform length, and all sharp, the wood is ground into fine dust, like that produced by a common file. And with the high speed above mentioned, if there be but one horse power applied, and the saw contains 80 teeth, of which ten are cutting at the same time, then there can be but half a pound of force applied to each tooth; but if the same power be applied to work but 300 revolutions per minute, then there would be something more than three pounds applied to each tooth; sufficient to enable each, if properly adjusted and sharp, to cut one eightieth of an inch: or equal to cutting 300 inches in length per minute, which is about three times as rapid as the same saw, with the same power. would perform under a speed of 2000. There can hardly be fonnd such an article as a circular saw, whose teeth are perfectly uniform in length, yet it is not a difficult task to adjust them correctly, if the operator has a guage properly adjusted, and gives due attention to the subject. In general, the best policy in managing a circular saw, is to have the teeth kept sharp and well adjusted, and to give the saw a strong but moderate motion.

NARROW ESCAPES.—While two trains on the Lowell road were rapidly passing each other at Wilmington, a little boy fell head foremost out of one of the windows, falling between the trains; but he immediately jumped up, uninjured, and ran after his train. A child in Cincinnati was recently seen in the act of falling out of a two story window: but a gentleman in the street springing forward, caught the child in his arms and saved it from harm.

A WHITE MAN KILLED BY A SLAVE.—A slave having escaped from Maryland into Pennsylvania, $150 reward was offered for him, and a man named Holland started in pursuit. The slave was overtaken and seized by Holland, when the slave suddenly stabbed Holland to the heart with a knife, and again made his escape, and is supposed to have reached Philadelphia.

For the Scientific American.

WILMINGTON, July 1st, 1846.

Mr. Editor,—I notice in your last No. (39), a piece headed "Science of Mechanics," with the common propelling wheel for an example, which I read with interest, as I always have articles under that head, since I became a subscriber to your most valuable paper. The example you have selected, is one I have given some attention for the last few months; and as I am a mechanic, ever desirous to receive information on any point in mechanics, particularly so on the one in question, I am somewhat disappointed in the results of your science in this example; for it appears to me some of the conclusions arrived at by your theory cannot be correct.

You say the principal loss of power when applied to a paddle-wheel, consists in the motion of the paddles when in the water: you also say, if the paddles while in the water, have as great a motion in one direction as the vessel has in the other, that one-half of the power is lost. I cannot conceive how one-half of the power can be lost at the only point from which all the power is derived. But you promise to make it plain by demonstration: then you say, if the resistance of the water were so permanent that the paddles had no motion at all while in the water, the wheel would be required to revolve only half as often to produce an equal velocity in the vessel. This is more incomprehensible still, and to my mind it is mere assertion founded in error; for daily exeriments, in successful operation, show that it cannot be so. Take for example the steamboat Empire, if you please, with wheels thirty-two feet in diameter, making eighteen revolutions per minute, which she actually does, and propels the boat from seventeen to eighteen miles per hour. Now suppose she makes only nine (half of the above) revolutions on solid water, with the extreme circumference of her wheels, without one particle of slip, and she can advance only about ten and a quarter miles per hour. This, I believe, is very nearly correct; if so, it differs very materially from your statements. I hope you, as a scientific man, will give this subject a thorough investigation, and let us hear from you on the subject of the paddle-wheel.

Permit me to make a few enquiries, by way of information. When a boat is propelled eighteen miles per hour by paddle-wheels, how much faster does the top of the wheels move than the bottom? How much resistance of atmosphere does the wheel meet with above the shaft? Is not this resistance directly against the power and speed both, which makes it real loss? Is it not, therefore, the grand desideratum to decrease the resistance at the top of the wheels rather than increase it at the bottom?

Please answer these few enquiries in your own time, and oblige

Yours, respectfully, P. M. HUTTON.

ANSWER.—With regard to our position concerning the loss of power by the motion of the paddles through the water, and which our correspondent esteems as "mere assertion founded in error," we are at a loss for terms whereby to demonstrate a point which is already as plain as demonstration itself. But as he appears to be peculiarly weak on this point, we must indulge him with a little primary illustration. The force applied by the paddles to the water, and consequent resistance of the water against the paddles, must in all cases be equal to the aqueous and atmospheric resistance against motion of the boat, whether the paddles move through the water, or encounter the permanent resistance of "solid water," and it requires no great share of common sense to see that to produce a double velocity in a paddle-wheel, or any other wheel, against an equal resistance, must require double power, and that consequently, if the motion of the paddles through the water in one direction, is equal to that of the boat in the other, double the quantity of power is expended that would be required to propel the boat with equal velocity, if the resistance against the paddle-wheels was permanent. The statement concerning the "Empire" is decidedly absurd, though it has no connection with this point of theory; and it would be difficult to convince any person who should observe the current produced in the water by the wheels of this boat when running, that the motion of the paddles while in the water, was no more than the rate of two and and a quarter miles per hour, which would accord with the statement of Mr. Hutton on that subject. In answer to the proposed questions, we would say that the top of a wheel moves twice as fast as the bottom, minus the motion of the paddles through the water; that the atmospheric resistance against the paddles above the water, is equal to about 1-800th of that of the water; that this resistance is *not* against the motion of the boat in addition to that of the wheel; and that the reduction of this resistance is of equal importance per pound, but much less feasible than the increase of resistance against the paddles.—*Ed. Scientific American.*

MR. DALLAS.—A hand-bill has been circulated in Philadelphia, containing an extract from a speech delivered by Mr. Dallas, after his nomination to the Vice Presidency, in which he claimed the Tariff of '42, as a Democratic measure, and affirmed it would be perfectly safe in the hands of Mr. Polk; and this is contrasted with his late *casting vote* against said Tariff. Fools are not all dead yet.

PRESERVATION.—About thirty years ago, a man named Blake, with his wife, perished in a snow-storm, in New Hampshire, and when found, buried in the snow, their infant child was alive in its mother's arms, having been carefully wrapped up in the cloak, of which the mother had deprived herself for the sake of the child. That child is now a prosperous merchant in one of our western villages, and an exemplary member of society.

A LARGE CANAL-BOAT.—Since the commencement of the recent improvements of the Scuylkill, boats of enormous size have been commenced for its navigation. One is nearly completed at Montgomery, which is ninety-four feet long, seventeen feet four inches wide, and seven feet in the hold. It is calculated to carry 200 tons.

Foreign News.

The steamship Great Western arrived on Monday morning. We learn by the foreign papers that the merchants of Liverpool had delivered a congratulatory address to Mr. McLane on the settlement of the Oregon question.

Business in the manufacturing districts is much depressed.

People are much alarmed on the extensive reappearance of the potato disease.

Some excitement prevailed against the practice of flogging in the British navy.

There is much trouble in Portugal, and a collision between the troops and the people is apprehended.

The misunderstanding between Turkey and Persia has been adjusted.

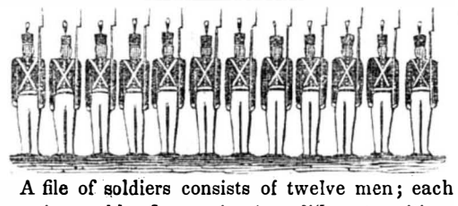
Mehemit Ali has embarked for Constantinople.

The war between the Russians and Circassians continues unabated. No other news worthy of note, by this arrival.

BARBARITY OF THE MEXICANS.—The senior publisher of the (Matamoros) Reveille is said to be the only survivor of a party of Americans who were taken prisoners by the Mexicans in 1816. They were kept at hard labor paving the streets of Monterey, till worn down with fatigue, and then, by order of the Government, were taken out of the city and shot. Our impression is, that the American invasion will ultimately prove no disadvantage to the Mexican morals or manners.

'TWASN'T WE.—Two small errors occurred in our phonographic characters last week;—the characters for *mast* and *commit* were each reversed. It was a blunder of one of our engravers, and was not discovered till too late for correction. This subject is rather difficult to manage in type-work.

Arithmetical.



A file of soldiers consists of twelve men; each man is capable of assuming four different positions in each of the twelve places. How many positions are the twelve collectively capable of assuming?: Rule first—Multiply four into itself twelve times the product will show the number of positions the file is capable of without changing places; second—multiply each of the twelve numbers by the next, thus: 1 by 2, this product by 3, and that by 4, &c., the last product will show how many positions the file may assume by changing places allowing one position in each. Third—multiply the two grand products into each other which will give the answer required, viz., 7,811,788,426,600.

Magnetic Telegraph.

The great importance of this method of communication is shown by the fact that had the line been completed from Washington to New Orleans the Government would have saved a million of dollars in one item. It would have been enabled to countermand the unauthorized requisitions of General Gaines, which in a slow course of mail, it took some fortnight or three weeks to do. Meanwhile the troops were ordered out at an expense of $1,000,000, incurred, which the government will be obliged to pay.

THE USES OF THE TELEGRAPH.—Sometime in May a Mr. Thurber, of Utica, was robbed of $195 on board of a packet boat between that place and Syracuse, by a cabin boy named *James Caton.* The money was subsequently divided with two or three others, a portion of it passing into the hands of a boy named *Lot Davis,* residing at Utica. A few days since, Caton was arrested in Auburn, and gave a history of the whole affair. Information was immediately forwarded to Utica, and in a *few minutes* after it was known that Davis was connected with the robbery, he was in the custody of the Utica officers, and the $50 received by him obtained!

A merchant of Philadelphia was taken in Baltimore the other day on a sheriff's warrant, and in duress, without a friend in the city by whose interposition he could escape a visit to jail. A thought struck him in his depression, and in custody of the sheriff he visited the Telegraph office. A message was despatched to Philadelphia, a draft drawn and accepted, and in half an hour the party was released, blessing the arts and sciences in general, and Morse's Telegraph in particular.

☞ $1100 was stolen on Friday, 17th, in Washington, and within three hours afterwards, the information, and a description of the money was transmitted to the New York Police.

THE GLORY OF WEALTH.—Mr. D. Brooks, who had acquired a fortune by mercantile pursuits, and retired to a splendid country residence, in Westchester county, recently committed suicide by hanging, in one of his out buildings. This may be reckoned among the fruits of a life of assiduous attention to amassing the wealth of this world, on the very prevalent plea of providing for old age. We recently observed in one of our exchanges, the sensible remark that "it is a hard case for a man to enslave himself two thirds of his life to acquire property, and then have to watch that property the rest of his life for merely his board and clothes." Probably Mr. Brooks thought so, also, and therefore determined to quit the premises. There is an unaccountable blindness pervades nearly all mankind with regard to their true interest. or the true source of enjoyment. But should a possessor of wealth, cherish benevolence and sympathy, and make it his business to search out and relieve such cases of severe suffering of honest poverty as might be relieved by such small contributions as would not materially endanger his own competence, he would soon find himself a happy man and would be in no danger of resorting to suicide to escape he miseries of gloomy disgust of the world and self-dissatisfaction.

VARIETY

Mrs. Hannah Perry, of Hanson, Mass., now in her 92d year, lately washed a dozen articles of clothing, spun a skein of yarn, walked a mile and picked a quart of whortleberries, all in one day, besides cooking for a family.

A Dayton (Ohio) paper has recently *seen* some plums which measured six and a half inches in circumference. Should an Englishman hear of them, he would conclude that *apples* were called plums in this country, the Yankees not knowing the difference.

Many are complaining of the annoyance of the small red ants. We should recommend the hanging up, or placing in the closets infested, a few *scare-ants* in the form of bits of camphor, or sprigs of mint.

A man lately died at Poughkeepsie, who had served in the capacity of a family coachman till he had accumulated and saved of his wages, the sum $3000 in cash.

The popular singers, known as the Hutchinson Family, having amassed comfortable fortunes, have retired to their native hills and bushes of Milford, N.H., to spend the warm season.

The ladies at Cape May have introduced the ancient and interesting amusement of archery—an amusement peculiarly appropriate to the fair sex, under the tuition of the *blind boy.*

A copper-head snake fell in Baltimore, during a recent shower, and dopreserved for exhibition. The people do not desire much of a shower of such things, especially in warm weather.

The Falls of Niagara have an average height of 160 feet. It appears by a measurement made a few years since that its moving power would be equal to 4,500,000 horse powers.

A solid mass of pure silver, weighing nearly seven pounds, was found a short time since at the depth of forty-five feet, by the Eagle River Mining Company. It has been sent to Boston.

The Methodist Episcopal Church, within the bounds of the Pittsburg (Pa.) Conference, has decreased from 49,849 white members to 41,461, within the last three years: decrease 8,338.

It is mentioned as a remarkable circumstance that the several Tariffs of 1824, 1828, 1842, and 1846, were each carried by one vote only. Congress appears to have been *guaged* very accurately.

A man in England has discovered a method of mesmerizing horses, and applies the art to the breaking of headstrong colts. While under the *influence,* the colts understand all his conversation.

"Never look at the girls," says an exchange; "they can't bear to be looked at; they only wear their fine-feathers and dresses just to please their mammas;—that is all.

A destructive fire occurred on the 5th instant, at Meredith Bridge, N. H., by which about thirty houses and stores were destroyed. The principal manufactories escaped.

It is ascertained that at least seventeen editors are among the volunteers for the war. It is no wonder; for the vexations in the editorial line are enough to make any man want to fight.

Somebody says that men and monkeys are constantly trying to imitate each other: but that while we are pleased with the efforts of the one, we are disgusted with those of the other.

Mr. Webster remarked, in the course of his speech on the Tariff, that "*flax-seed* was charged 20 per cent, and *lin-seed* only 10 per cent, though they are *precisely the same thing.*"

A certain school-boy is said to have calculated the value of the world at one dollar, because it contains *four quarters!*" Probably the boy's father was a miser.

The late Pope is represented to have been not very rich; he left only about $100,000 in money, though his principal wealth is supposed to consist in real estate and other property.

The price of flour at Cincinnati was quoted last week at $2 60. Sugar was at 6 cents per lb.; eggs 5 cents per dozen. Citizens in decent business, can afford to live comfortably.

Kendall of the N. O. Picayune, represents the dog population in Reynosa, Mexico, to be equal to about seven and half dogs to each human inhabitant. It must be a great place for bow-wows.

Smith, the razor-strop man, in giving a toast on the occasion of Washington's birth-day, and in allusion to his character, expressed regret that we had not a *few more left of the same sort.*

The practice of advertising runaway wives does not relieve the advertiser from liabilities, but so effectually prostrates his own credit, that nobody would trust either his wife or himself.

The operation of the Croyden (Eng.) atmospheric railway has been suspended in cnnsequence of the intense heat, which has melted the composition used to seal the tube.

It is remarked in allusion to the evidently sincere penitence of Potter, who was lately executed at New Haven, that "as soon as he had become fit to live, they hung him."

The Charlestown S. C. volunteers have requested to be permitted to proceed to actual service; but their services have been declined, on the ground that a sufficient number are already engaged.

Col. Marshall's regiment of cavalry from Kentucky, musters 1000 strong, all well mounted, and dressed in an unique and imposing uniform. They are styled "*the hunters of Kentucky.*"

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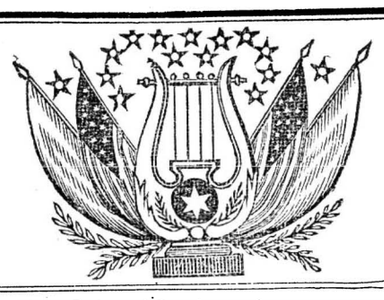


The Scientific American.

BY MARSHALL S. PIKE,—OF THE HASM NEANS.

No golden coin buys thee a name,
But genius ready to admire;
Writes to the world thy future fame,
While proud ambition points thee higher!
On World's vast book with names beneath,
THY NAME is written on its pages;
And Time has wove a changeless wreath,
To crown thy brow in after ages.

Thy works of skill delve deep in earth,
To open many a jewel'd casket;
And bring up ore and gems of worth,
To fill the world's great money basket!
Down too thy work dives through the waves,
To grasp for gold as science taught us,
Where *live* men tread o'er sea-nymphs graves,
And gather wealth beneath the waters!

Whose works but thine build high in air
The marble pile and column'd granite?
Ask those who idly stand and stare,
And *wonder what* and *who* could plan it!
Thy tasks of skill o'er all the land,
With Nature's models bid defiance;
For *all*, from beautiful to grand,
Is by *her touch* and by *thy Science!*

Yet, when these chisel'd pillars tall,
With tottering marble piles shall tumble;
When cities gay in ruins fall
To earth, to decompose and crumble;
Then shall *thy name* outlive the dead,
Which *now* the unborn, *then* shall cherish;
Time's fadeless wreath will crown thy head,
Whose lasting deeds can never perish.

The Soldier's Prayer.

BY T. M CHANDLER.

I care not for the hurried march
Through August's burning noon,
Nor the cold long ward at night,
Beneath the dewy moon;
I've calmly felt the winter's storms,
O'er my unsheltered head,
And trod the snow with naked feet,
Till every track was red!

My soldier's fare is poor and scant—
'Tis what my comrades share,
Yon heaven my only canopy—
But that I well can bear;
A dull and feverish weight of pain
Is pressing on my brow,
And I am faint with recent wounds—
For that I care not now.

But oh, I long once more to view
My childhood's dwelling-place,
To clasp my mother to my heart—
To see my father's face!
To list each well-remembered tone,
To gaze on every eye
That met my ear or thrill'd my heart,
In moments long gone by

In vain, with long and frequent draught
Of every wave I sip,—
A quenchless and consuming thirst
Is ever on my lip!
The very air that fans my cheek,
No blessed coolness brings,—
A burning heat and chilling damp
Is ever on its wings.

Oh! let me seek my home once more—
For but a little while—
But once above my couch to see
My mother's gentle smile;
It haunts me in my waking hours—
'Tis ever in my dreams,
With all the pleasant paths of home,
Rocks, woods and shaded streams.

There is a fount—I know it well—
It springs beneath a rock,
Oh, how its coolness and its light,
My feverish fancies mock!
I pine to lay me by its side,
And bathe my lips and brow,
'Twould give new fervor to the heart
That beats so languid now.

I may not—I must linger here—
Perchance it may be just!
But well I know this yearning soon
Will scorch my heart to dust;
One breathing of my native air,
Had called me back to life—
But I must die—must waste away
Beneath this inward strife.

DISAPPEARANCE OF A LAKE.—The inhabitants of the valley of Ortzhel (in the Tyrol), have just witnessed a singular circumstance. The waters of the Lake Vernagtfer have disappeared entirely. They flowed off during a single night through a large opening formed in the bottom of the lake, which is composed of a clayey earth.

SAW LOGS—A western paper represents that the "New Englanders saw up logs at their mills so small that a man may travel with one under each arm." That story might be sawed up into a half-a-dozen common sized fibs.

MORE ABSENCE OF MIND.—It is reported that a judge, intending to sentence a prisoner to be hanged, pronounced sentence on the sheriff and discharged the prisoner.

CATOGRAPHY.—It is said that when a cat's tail is pinched between a door and the post, she utters the vowels *a e i o u*, and finally dwelling on *w* till released, when the sound terminates on *y* short.

NO CHANGE.—The Washington "Union," persists in the assertion that there is to be *no change* in the cabinet;—letter-writers to the contrary notwithstanding. This must be gratifying to all parties.

Arts and Trades.

DIFFERENT MODES OF PRINTING.

"Printing is the art of taking one or more impressions from the same surface, whereby characters and signs, cast engraven, drawn, or otherwise represented thereon, or caused to present their reverse images upon paper, vellum, parchment, linen, and other substances, in pigments of various hues, or by means of chemical combinations, of which the components are contained on or within the surface from which the impression is taken, or in the fabric of the thing unpressed, or in both.

"The most important branch of printing is what is called *letter-press* printing, or the method of taking impressions from letters and other characters cast in relief upon separate pieces of metal and therefore capable of indefinite combination. The impressions are taken either by superficial or surface pressure, as in the common printing press, or by lineal or cylindrical pressure, as in the printing machine and roller-press. The pigments or inks, of whatever color, are always upon the surface of the types; and the substance, which may be impressed are various. Wood-cuts and other engravings *in relief* are also printed in this manner.

"*Copper plate* printing is the reverse of the above the characters being *engraven* in intaglio, and the pigments or inks contained within the lines of the engravings, and not upon the surface of the plate. The impressions are always taken by lineal or cylindrical pressure; the substances to be impressed, however, are more limited. All engravings in intaglio, on whatever material, are printed by this method.

"*Cotton and Calico* printing is from the surfaces engraven either in relief or in intaglio. The chemical compounds are either on or within the characters, as pigments or chemical colors, or in the fabric to be printed, but mostly in both, the combination of chemical substances producing color when the fabric and the engraving are brought into contact. The impression is either superficial or lineal, but mostly lineal."

PRESSED GLASS TUMBLERS.—In this branch a brass mould is used, containing a hollow within it, exactly of the size and form of the tumbler to be made; and a follower of the same form, but as much smaller as to fit the inside thereof. When the two parts of the mould are put together, the space between them is the exact thickness of the vessel required. In the process of manufacturing, three men and two boys are required. The first thing done, is for one of the men to dip an iron in the melted glass, and move it about, until he has a sufficient quantity of the fluid mass on the end of his rod; he then holds it over the hollow of the mould, and, with a pair of shears, cuts off what he judges to be enough to constitute the substance of the tumbler. Instantly the other man brings down the follower with a lever power, and the melted glass is so compressed as to fill the cavity of the mould. He then turns his mould bottom up, with a little blow, and the tumbler drops red hot upon a stone table. One of the boys with an iron rod having a little melted glass on its end, presses it on the bottom of the tumbler and it slightly adheres. He then holds it in the mouth of a glowing furnace, turning it rapidly, till it is almost in a melting state, when the third man takes it, and whirling the rod and tumbler on a sort of arm of a chair, he holds a smooth iron tool against the edge of the tumbler, till all the roughness is removed from its edges, when a boy takes the rod from him, and by a light stroke on the end of it, drops the tumbler into a box of coal dust, when the other boy, with an iron fork on the end of a stick, takes the tumbler and places it in a hot oven, to cool gradually. These five hands will make a beautiful tumbler in about forty seconds, or about one hundred in an hour."

SARCASTIC SENTENCE.—Old Elias Keyes, formerly first Judge of Windsor County, Vt. was a strange composition of folly and good sense, of natural shrewdness and want of cultivation. The following sentence was pronounced upon a poor ragged fellow for stealing a pair of boots from General Curtis, a man of considerable wealth in the Town of Windsor:—

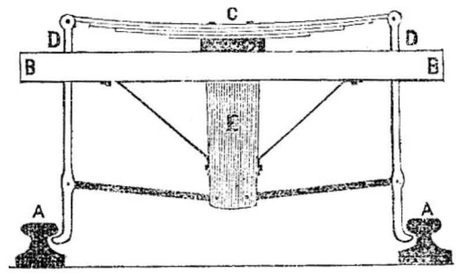
"Well," said the Judge, very gravely, before pronouncing sentence of Court, undertaking to read the young villain a lecture, "you are a fine fellow to be arraigned before a Court for stealing. They say you are poor—no one doubts it who looks at you, and how dare you, being poor, have the impudence to steal a pair of boots?—No body *but rich* people have a right to take such things without paying!—then they say you are worthless—that is evident from the fact that no one has ever asked justice to be done you: all by unanimous consent, pronounced you guilty before you were tried. Now you, being *so worthless*, was a fool to steal, because you might know you would be condemned. And you must know it was a great aggravation to your offence that you stole them in *the large town of Windsor!* In that large town to commit such an act is most horrible! And you not only go into Windsor to steal, but you must steal from that great man, Gen. Curtis! This caps the climax of your iniquity. Base wretch! why did you not go and steal the only pair of boots which, some poor man had, or could get, and then you would have been let alone; nobody would have troubled themselves about the act! For your iniquity in stealing in the great town of Windsor, and from the great Gen. Curtis, the Court sentences you to three month's imprisonment in the County Jail and may God give you something to eat.

THE WEATHER.—For some days last week, the mercury ranged from 95 to 100 degrees, as reported from various cities and towns. A Lowell paper speaks of a dealer who kept all his thermometers immersed in ice-water to prevent their running over.

CITY OF MANCHESTER.—The inhabitants of Manchester, N. H., last week voted to accept the charter for a city government, recently granted by the Legislature. For aught we know to the contrary, it is the first and only city in that State.

New Inventions.

MR. O'BRIEN'S SAFETY GUARD.



EXPLANATION.—The object of this invention is to secure railroad cars from being thrown off the track. In the above cut, A A represents sections of rails; B B the centre cross beam of the truck. To the centre of this beam a feather spring, C, is attached, and the two ends of the spring support two vertical bars which terminate in hooks at the bottom, which are kept in place by two horizontal bars connected to the bottom of the hanging post, E. They are moreover supported by longitudinal horizontal braces not represented. The place for these hooks is between the two wheels on each side; the wheels are necessarily omitted in the cut, for the sake of showing the hooks. It is supposed that the hooks will prevent the rising of the wheels high enough to jump off the track, while by the elasticity of the spring, they may rise over any small obstacle without being retarded. The invention has not yet been tested by experiment, but any person wishing further intelligence on the subject may enquire at this office.

DR. SMITHS ELECTRO-MAGNETIC MACHINE.—This little machine, which was described in No. 44 of this paper, is performing wonders, and is probably the *ne plus ultra* in that line,—for giving shocks &c., for medical purposes and for amusing experiments. We recently connected one of these machines to a little cup battery not larger than a common tea-cup, and with a negative plate of only one square inch; and with only this, the machine communicated such powerful shocks—not a mere sudden shock, but continuous,—that even when the secondary circuit was formed by eight or ten persons holding each other by the hands, not one of them could bear the shocks for three seconds of time. One of the persons who constituted the circuit, was very reluctant to take a place in the ring, on the plea of having a severe head-ache: but being persuaded, though without the least regard to any *medical* effect, this person was relieved from the head-ache for the remainder of the evening. We learn that in naming the price of these machines we were not perfectly understood and therefore explain. The prices of the machines alone, without the batteries, brass handles or instructions, is $7,50 each by the dozen; but the price of a single machine is $8,50, and for the battery, handles and wires $2,00, to $3,50 with written instructions, according to the kind of batteries used.

Railroad Intelligence.

NEW LONDON AND NORWICH RAILROAD.—The citizens of New London, Ct., have seriously set about the construction of a railroad from that place to Norwich, to connect with the Norwich and Worcester Railroad at Norwich, and passing down the west bank of the Thames. The distance is but twelve miles, and the cost of construction something like $3000,000.

PITTSFIELD AND NORTH ADAMS RAILROAD.—A Pittsfield paper says: "The work upon this road is progressing, and we learn from the engineer, Mr. Harbach, that it is expected to be in operation by the first of October. The iron for the road is on its way from England, and as soon as received, the work of laying the rails will be commenced."

MAD RIVER AND SCHENECTADY RAILROAD.—This road will be opened in a few days from Tiffin, on Sandusky river, to Canton in Hardin county; thence to Xenia, is 56 miles, and this is the only stage travel between Cincinnati and Lake Erie; all the rest is travelled by steam. In about a month the stage travel will be reduced to only twenty-five. miles.

MIDDLEBOROUGH (MASS.) BRANCH.—The new railroad from Myrick's Corner to Middleboro' was opened on Monday last.

VERMONT CENTRAL RAILROAD.—This road is rapidly advancing, the entire route being under contract; and an extension from Windsor to meet the Cheshire road at Walpole, is expected to be put under contract in a few days.

GEORGIA AND TENNESSE R.R.—This road is nearly completed from Savannah to Atalanta, forming a continuous line for the distance of three hundred and seventy miles.

PORTLAND (ME.) AND MONTREAL R. R.—An exceedingly favorable route has been found from Montreal to St. Hyacinth, being almost on a direct line, and without curves or elevations. On the southern section, shanties have been built, and a thousand men already engaged between Portland and North Yarmouth.

CHESHIRE (N. H.) RAILROAD.—The grading of this road is rapidly progressing on the whole distance from Keene to the Connecticut river:—The cut through the rocks at the summit beyond Keene, will prove a hard job, but perseverance will prevail.

CONNECTICUT RIVER R.R.—The section between Northampton and Deerfield is approaching completion. It is expected to be finished to Greenfield before winter.

NORTHERN (N. H.) RAILROAD.—Twelve hundred men are employed on this road, and it is expected that a section of 10 miles will be finished during the Autumn. This road is to be laid with American iron from the Mount Savage and the Tremont Company's Works.

The extension of the Baltimore and Ohio railroad to Pittsburg, and the completion of a railroad from Pittsburg to Cleveland Ohio, are decided on, and will be pushed forward without delay.

A branch road from Concord, Mass., to Feltonville, and various other roads, will be noticed in future numbers.

Geological Gleanings in Mississippi.

(Continued from No. 46.)

During periods of much rain in the winter months these prairies, and the woodlands surrounding them, become almost impassable. The soil is deep, and of surprising tenacity; wheels passing through it, soon present a perfect disc of adhesive earth, and the feet and legs of horses become clogged to a degree that renders their movements extremely heavy and toilsome, the hair being also removed in a few days by the lime contained in the soil.

Bordering these prairies, and covering a large surface to the westward, occurs that description of land termed barrens, partaking of a mixed character of prairie and woodland, very similar, if not identical in formation and soil, but sparsely interspersed with timber of inferior size, some quite dwarfish, among which post oak, hickory, red oak, and black jack predominate.

This description of country extends to the northern part of the State, westward to the bluffs of the Yazoo, around the head waters of Pearl River and Big Black, its southern limit west of the former being between Jackson and Gallatin.

The surface of much of this section is very favorable for cultivation, and the soil in some parts quite productive for a few years.

Such are the principal formations into which the State is divided. These necessarily become blended and run imperceptibly into each other, partaking of a mixed character, as well in soil as in timber.

The intervening range between the Bluff tract and the Pine Forest, is remarkably characterized by the presence of the magnolia macrophylla, or umbrella tree, found only, it is believed, in this belt extending northwardly to the limit where it ceases to flourish.

Having thus passed cursorily over the surface of the State, it remains to instance more specially some of the minerals and substances it contains, us eful for economical purposes, or interesting to the curious and scientific observer.

Iron ore has not yet been wrought within the State, although it is supposed to exist in many places, of different varieties, suitable in quality, and in sufficient abundance, to give profitable employment to labor and capital.

It is said to abound in several counties in the State; the bog ore is found near Jackson, but the deposits are not yet sufficiently explored to determine their extent or value.

The sand and limestone furnish valuable building materials, in many situations. In addition to the Raymond and Grand Gulf rock, already mentioned, quarries have been worked to a limited extent, in Wilkinson and Franklin counties. In the latter, monumental tablets have been obtained, and wrought in the city of Natchez. The quarries in Franklin lie east of Well's Creek, six or eight miles south east of the Railroad depot. The stratum there is only two or three feet thick. It is considered by the mason who first brought it into notice, to be equal to much of the freestone wrought in the United States, being uniform in texture, and entirely free from the presence of iron. He has introduced it to a small extent, in the new Catholic church in Natchez, and has used it for steps, cintels, and other purposes. By many it is considered too soft, but will probably harden by continued exposure to the atmosphere.

Lime is easily and abundantly obtained in several parts of the State. An extensive quarry, near Pearl river, a few miles below Jackson, has furnished a great part of the lime used in that city. This is of the kind termed nummulite limestone, and abounds with shark's-teeth, spatangus, and a variety of marine shells; and fossil fish of considerable size have been found embedded in it.

Superficial beds of lignite, or coal, in the incipient stage of formation, occur occasionally, and some coal beds were said to have been discovered in the vicinity of the Yazoo, by a practical miner, who assigned the difficulty of transportation as the reason for not working it in preference to another discovery which he made on the Arkansas river. It is probable, however, that the quality of the coal, and its apparent extent, was not without its influence in determining the company, for whom he was engaged, from working it.

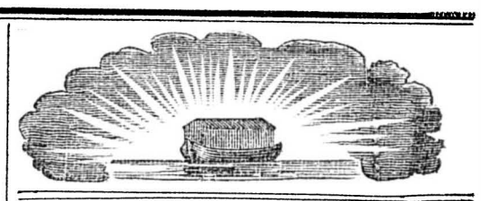
No expectation is entertained that either lead or silver will be discovered. Gold, however, may doubtless be found, occurring as it occasionally does in the diluvium or drift. The formation in which it exists also in Virginia and Carolina, ranging through Georgia, Tennessee, and Alabama, probably penetrates the northern part of this State. But the cotton lands on the river border, comprise the true gold region, or many of our most successful planters have proven most expert alchemists.

Perhaps no mineral will be found more valuable, certainly none of more immediate interest to the planter, than the marl, of which exhaustless stores exist, especially throughout the district denominated the prairie region, but to which its presence is by no means limited. It is true that in much of that formation, and particularly in the open prairie lands, lime already exists in the soil in excess, a defect which perhaps continued cultivation, and the addition of vegetable matter, will correct. But to those tracts within the barrens, or adjacent timbered lands, already sensibly impaired in their productive constituents, the restorative properties of this fertilizing agent, will doubtless prove of incalculable value.

A correspondent states that in the vicinity of Jackson, very satisfactory experiments have been made with marl found in that quarter.

A planter, in Rankin county, has applied it to the extent of seven hundred bushels per acre, and although the quantity was found too great, yet there was an increase of one-third in the cotton crop the second year, and the crop of corn and oats was equally benefitted. Another planter in Hinds county, has used it with marked advantage, and, satisfied that exhausted lands can be brought to a state of more than pristine fertility, at less expense of time and labor than attends the opening of a new plantation, designs employing it extensively hereafter.

(To be continued.)



Be Rational and Consistent.

All rational men in ordinary business of the world, follow what is termed a rational course; and in all their business arrangements, they contemplate and calculate before hand as nearly as possible, the profits and losses, or the expenses and proceeds; and if they are engaged in mercantile pursuits, they take into consideration the proportionate risks and place it against the prospect of advantage, reckoning each at so much per cent. For example, if a quantity of goods valued at $10,000 is shipped to a distant port, or otherwise exposed to a risk of one chance in a hundred of being lost, he values that risk at $100, and is willing to pay that amount for insurance: and if there appears a prospect equal to one chance in ten of gaining 20 per cent profit, he values this prospect at $200 and acts accordingly. This course is rational; and every consistent farmer and mechanic also makes some calculations on the risks of losses by fire and otherwise, and places it against his prospects of income. But many there are of all classes and business pursuits, who profess to believe that they are immortal and are to exist in conscious being, either in a state of perfect happiness or of excruciating torment, forever and ever: and who also admit that they are not at present in a state of preparation to be received into the company of angels and glorified saints, in the presence of God, though they hope to be prepared before death overtakes them. Now we would admonish such people to act on the ration principle, on this subject as well as in business of the world, and make an estimate of the proportion of risk as compared with time, and the value of the whole. If one of them has a house worth $20,000 which is so situated as to be as likely to be destroyed by fire within ten years, as to escape ten years, he reckons this risk at ten per cent per annum, and equal to $2000 a-year; about $40 per week or nearly six dollars per day. If it was practicable to remove this danger, he would immediately set about it, in preference to ordinary business; and would suffer considerable anxiety lest the house should be destroyed before he had effected measures for securing it. Now it must be readily admitted that every man is subject to a risk equal to one chance in 10,000 of meeting with sudden death, by accidental casuality or otherwise within one year: and this is equal to one chance in 3,650,000 every day: or 1 to 87,600,000 every hour; and this risk, allowing the difference between eternal joy and eternal misery to be equal to $876,000,000, and which they admit they must lose if they die while neglecting obedience to the commandments of Christ is equal to ten dollars an hour. Will any of our readers who pretend to be rational beings, content themselves for one hour under such an immense and constant risk? Or will they plead that the estimate is too high, and above the real value of the glorious eternal salvation as contrasted with the opposite everlasting pain and hopeless despair? Surely there must be a gross inconsistency somewhere: either men, and even churchmembers and professors of religion, do not believe what they profess to believe, or they are indulging a greater degree of recklessness than the profligate who squanders his property by thousands in dissipation, while he knows he is bringing himself to immediate poverty, beggary and disgrace. But admitting that there was an uncertainty with regard to the reality of these things which men profess to believe. Let us examine this point and see how much the risk may be thereby reduced. Allowing that there is only one chance in ten that the doctrine of the eternal glory of the righteous, is true;—and it would be a strange profession of faith that should admit of a greater degree of uncertainty than ten to one;—and even on that ground, and on the above estimate, the actual risk would be equal to one dollar per hour, by those who neglect a humble and implicit obedience to the gospel; and this amount of risk is more than men will submit to, in ordinary business. But taking into consideration the endless duration of the future state, even if the difference between the two extremes of happiness and misery was estimated at only ten dollars a year, we find that a comparatively small fraction of the whole term would produce a difference in value equal to $87,600,000,000; and this, under all those allowances, would show the actual risk to be at least *one hundred dollars per hour* for every hour in which any human being in this world neglects full and implicit obedience to all the commands of Christ. Where is rational consistency? Where is the man who would attend to his ordinary business, while subject to an absolute risk or danger worth $100 per hour,—equal to an even chance, or 50 per cent risk of losing $4,800 every day; or to the actual loss of $2,400 per day. Gentle reader, are you a rational being? If so, never pretend to entertain the least degree of faith in the truth of the sacred scriptures, till you are both willing and *ready* to obey all the divine injunctions of gospel. Otherwise you will display an absurdity and hypocrisy, altogether inconsistent with the natural dignity of a rational being.

GRAHAM'S MAGAZINE.—The August number of this unrivalled work, fully sustains its highly established reputation for elegance of embellishments and choice literary originals. The view of the Indian encampment on the banks of the Missouri, is one of those inimitable engravings which excites admiration in all. It contains also an excellent piece of music,—"The Daughter's of Columbia,"—by Wetmore. Published at 98 Chesnut st., Philadelphia, and Tribune Buildings, New York.

RELIEF FOR THE SUFFERERS.—About $60,000 have been contributed for the relief of the sufferers by fire at Nantucket. Whether this is to be distributed to the *poor* sufferers who had but little to lose, or to the wealthy owners of the property destroyed, ought to be more definitely understood by the public.

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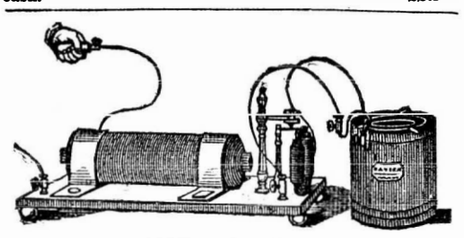

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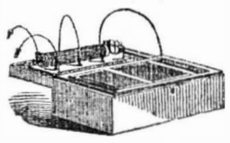

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Wanted—two or three skilful operators. Apply as above. 20tf

BLACK LEAD POTS.

THE Subscriber offers for sale, in lots to suit purchasers, a superior article of *Black Lead Pots*, that can be used without annealing. The price is low, and founders are requested to make a trial.

SAMUEL C. HILLS,
~~45to2dv6~~ Patent Agent, 12 Platt Street.

Water-power for Sale.

A Rare Chance for a Manufacturer.

The Water-mills at the head of tide-water, in the pleasant village of East Haven, Ct., and within two miles of New Haven harbor, on an unfailing stream of ten or twelve horse-powers, are for sale at a very moderate price, and on liberal terms of payment. This site is susceptible of a considerable additional power, by increasing the head of water, if required: and its location is such that the cost of transportation of goods to the steamboat landing is merely trifling. A part of the price may remain on mortgage two or three years, if required. For further particulars enquire of Edwin Street, East Haven, or Robert Atwater, 199 Pearl st. N.Y. 34tf

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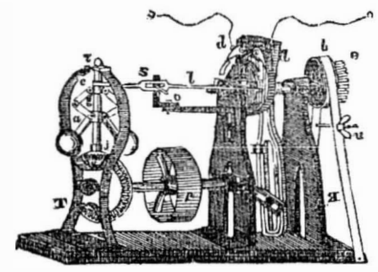


SCHOLFIELD'S CELEBRATED Improved Patent Regulator.

N. CHOLFIELD, Norwich, Conn., continues to manufacture, and keeps constantly on hand, his Improved Patent Regulators, for water-wheels and steam engines; he makes five different sizes, indicated by numbers comencing at the largest size, which is called No. 1, &c..

They are built in a neat and compact form, and printed directions accompany each machine, which will enable any mechanic to put them in operation; as a general rule the different numbers are adapted to different sized wheels, as follows;

For over-shot or breast wheels, 3 feet buckets, No. 5; 5 or 6 feet buckets, No. 4; 6 to 10 feet buckets, No. 3; 8 to 15 feet buckets, No. 2; 12 to 20 ft. buckets, No. 1; greater than 20 feet, No. 1 extra.

The following agencies have been established for the sale of these machines:—Jones, Denney & Ward, Boston; V. J. Bates & Co., Providence, R. S; Charles Schenck, New York city; D. Wight & Lon, Troy, N. Y.; R.M. Vansickler, Albany, N.Y. S.C. Bemis, Springfield, Mass.; Denslow & Beach,; Hartford, Conn.; Joseph B. Hughes, Philadelphia; Wells Chase, and Towner Dunlap & Co.; Baltimore.

N. Scholfield also builds to order Bacon's Improved Pickers, a superior article for cotton or wool.

Norwich Conn., Feb. 14. 19eowtf.

General Patent Agency.

THE subscriber has established an agency at his Warehouse, 12 Platt street, New York, for the protection and general advancement of the rights and interests of Inventors and Patentees.

The objects of this agency are more particularly to aid and assist Inventors and Patentees in effecting sales of their inventions and of goods and wares made therewith—and also for the sale and transfer of Patent Rights.

Arrangements have been made with a lawyer familiar with the Patent Laws, who will attend to the legal branch of the business upon reasonable terms. Satisfactory references will be given. Applications may be made to the undersigned personally, or by letter, *post-paid.*

SAMUEL C. HILLS,
45 2d6-x *General Patent Agent.*

Patent Agency at Washington.

ZENAS C. ROBBINS.

Mechanical Engineer and Agent for procuring PATENTS,

Will prepare the necessary Drawings and papers for applicants for patents, and transact all other business in the line of his profession at the Patent Office. He can be consulted on all questions relating to the patent laws and decisions in the United States or Europe. Persons at a distance desirous of having examinations made at the Patent Office, prior to making application for a patent, may forward (post paid, enclosing a fee of five dollars,) a clear statement of their case, when immediate attention will be given to it, and all the information that could be obtained by a visit of the applicant in person, will be promptly communicated.

All letters on business *must be* post paid, and contain a suitable fee, where a written opinion is required.

Office on F street, between 7th and 8th sts., opposite the east wing of the Patent Office.

He has the honor of referring, by permission, to Hon. Edmund Burke, Commissioner of Patents; Hon. H. L. Ellsworth, late ditto: Judge Cranch, Washington, D.C.; Hon. R. Choate, Massachusetts, U. S. Senator; Capt. H. M. Shreve, Missouri; H. Knowles, Machinist, Patent Office. april 2.3m*

JOHN BROWN.

CARPENTER AND PRINTER'S JOINER.
Nos. 29 *&* 61 *Ann-street, N. Y.*

MANUFACTURER of Cases, Stands, Furniture, &c. Stereotype Blocks, of various sizes.

Box-wood and mahogany, for Engravers, always on hand.

Stereotype plates blocked at short notice.

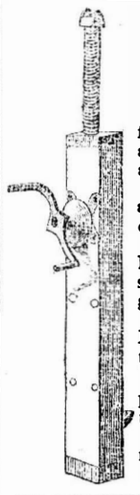
Press, paper, and letter boards, of every description.

Book-binders' cutting and pattern boards.

Stereotype boxes, made to order.

Printers', stereotypers, type-founders', and book-binders' jobbing work done at the shortest notice.

N. B. Orders from various sections of the country solicited, and promptly executed. 8to52*



BALLARD'S IMPROVED JACK SCREW

PATENTED.

THE advantage of this Jack Screw for Railroads, Steam-Boiler Builders, and for other purposes, are superior to any other similar machine.

The improvement consists in being able to use either end of the screw, as occasion requires.

It is capable of raising the heaviest Locomotive with ease, being portable, strong, and powerful, and not likely to get out of order.

Many Railroad Companies and Boiler Makers have them in use, by whom theyare highly recommended.

JACK SCREWS of various sizes power and price, constantly on hand, at the manufactory,

No. 7. Eldridge street, near Division. 45to49-x

NORCROSS & CONVERSE,
MANUFACTURERS OF
INDIA RUBBER BRACES,
BOOT WEBBING, &c.,
MONSON, MASS.

The Best Ink Known,

Two Silver Medals Premium!

At the ~~Annual Fair of the American and Mechanics'~~ Institute for 1846, a SILVER MEDAL was awarded by each to Thaddeus Davids for "the Best writing ink ~~known.~~" 500 gross 2, 4 6, 8, 16, and 32 oz. steel pen ink; 100 gross, ditto blue, red, japan, and copying ditto; 200 gross, Indelible Ink, warranted, with and without a preparation in elegant cases; 5000 lbs. wafers, all sizes and qualities from 10 to 50 lbs.; 10,000 lbs., sealing wax from 6cts. to $1, per lbs. For sale, wholesale and retail, on accommodating terms, by THADDEUS DAVIDS, Importer and manufacturer of sealing wax, wafers, inks, indelible inks, &c., No. 112 John street, New York, and by all stationers, booksellers, druggists, &c., in the United States. 20tf

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Rolling Mills, blast Furnaces & Forges.

Iron works of all descriptions, erected upon the most improved plans; steam or water powers.

Drawings, plans and estimates made for buildings, furnaces and machinery, and contracts for the whole or any part thereof taken and executed with promptness and despatch; and will also give his personal superintendence in the erection of iron works of all kinds, such as Rolling mills, blast furnaces—of hot and cold blasts—anthricite, bituminous, and charcoal or wood furnaces, forges, trip-hammers; iron, brass, and bell foundry, pudling and heating furnaees, air cupolo chaffery and refinery, or let out furnaces.

N.B.—All letters directed, post-paid, to S. B. MERKEL, Founder-machinist, millwright, draughtsman and Engineer, Philadelphia. Pa. 22tf

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C pper Smith.

THE subscriber takes this method of informing the public that he is manufacturing Copper work of every description. Particular attention is giving to making and repairing LOCOMOTIVE tubes. Those at a distance can have any kind of work made to drawings, and may ascertain costs, &c., by addressing, L. R. BAILEY.

Corner of West & Franklin st., New-York.

N. B. Work shipped to any part of the country 45to2dv18*

MARSHALL'S TROY SHIRT DEPOT.

AT this Establishment may be seen the largest assortment of Shirts, Bosoms, Collars, &c., to be found in the city—all of our own manufacture, in Troy, which we offer to dealers and citizens in general, 25 per cent. below city prices. The above goods have won too high praise to need any puffing from us. It is sufficient to say that we are now patronized by all the principal dealers in the city, and the above goods have been generally approved of throughout the country, for being well made and for cheapness.

Just received—Linen bosom shirts with linen collars and wristbands—warranted—at 62 cents, 75 cents, 87 cents, $1, $1,25, $1,50, $1,75, $2. Also linen collars at 4 cents, 6 cents, 12 1-2 cents, 18 3-4 cents, and 25 cents.

MARSHALL'S, 90 Chatham st., N.Y.

N.B.—Northern, Southern, Western and Eastern Merchants, who are making their purchases at the wholesale dry goods houses, will do well to inquire for goods of our manufacture, as it is sometimes the case, that other kinds are kept by them. 42tf

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Book for Mechanics.

THE ENGINEER'S AND MECHANIC'S COMPANION.

Comprising Weights, Measures, Mensuration of superfices and solids, tables of squares and cubes,—square and cube roots, circumference, and areas of circles, the mechanical powers, centres of gravity, gravitation of bodies; strength, weight, and crush of materials; water-wheels; hydrostatics, hydraulics, statics, centres of percussion and giration; friction, heat, tables of weight and metals; pipes, scantling, and interest; steam and the steam engine.

By J. M. SCRIBNER, A. M.

Recently published, and for sale by
HUNTINGTON & SAVAGE,
216 Pearl st., price $1,12 to $1,50. 16tf

A. G. Bagley's Celebrated Improved
EVER POINTED GOLD PEN.

THIS Pen received the highest premium at the last Fair of the American Institute, and has been pronounced by the first teachers of Penmanship in the country to be infinitely superior to any Gold Pen ever before introduced to the American public. The lasting properties of this Pen are undoubted, owing to the total absence of corrosibility from any of the inks in use, and the peculiar shade of the nibs, (which was first introduced by Bagley, (makes it more pleasant to use, renders it less liable to damage, more easy to repair, and prevents the necessity of the great care that other articles of the kind require.

MANUFACTORY, 189 Broadway, N. Y. 7tf

W. N. SEYMOUR & Co.

IMPORTERS AND DEALERS,
AT THE
Old Established Hardware and Tool Store,
No. 4 Chatham Square,
(at the Foot of the Bowery, N.Y.)

HAVE the greatest assortment of Hardware for builders; Mechanics' tools of all descriptions.

Wm. Graves & Sons' warranted cast steel files & tools.
Worrall's warranted cast steel saws.
Hoe & Co.'s do. do. do.
Cabinet Trimmings. Tin and wooden ware.
House-keeping articles of great variety.
Agricultural tools. Patent Safety Fuse for blasting.
Sole Agents, for this city, for J. A. Fay's patent Mortising Machine. 42tf

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CHEAP HARDWARE, AND MECHANICS'
TOOL STORE,

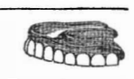
No. 174 West Street, North River side of the City, between Murray and Warren streets.

THE Subscriber having increased his stock and assortment of HARDWARE by recent arrivals from Europe, and other sources, respectfully solicits a call from Mechanics, Tanners, and others, in want, to examine his variety, prices, &c., which he presumes will be found as low, if not lower, than are charged by many other dealers here. The lowest one-price rate will be strictly adhered to, and all goods not proving as represented, will be either exchanged or the money refunded. Among his variety will be found the following:

Viv.: Butcher's celebrated edge tools, saws, files, chisels, &c.
Albertson's coopers' house and ship carpenters' tools.
American circular, cross-cut, and mill saws.
Planes of all kinds; braces and bits, vices, anvils.
American screws, butts, locks, latches, and bell furniture.
Patent safety fuse for blasting.
A fine assortment of grindstones.
Agent for the sale of Swift's patent coffee and spice ills, suitable for coffee roasters and grocers. Together with a full assortment too numerous to mention. Call and see, and go away supplied satisfied.

m3,4tf. G. W. GUION.

TEETH



THE cheapest office in this city for Dental operations is Dr. Brown's, 280 1-2 Broadway, between Reade and Chambers st.

Natural and mineral teeth inserted from	$1 to 3 50
Decayed teeth filled with white cement, and warranted useful for mastication,	50
Toothache cured effectually without pain,	50
Teeth extracted with less than half the usual pain	50

Dr. BROWN,
280 1-2 Broadway, 3 doors above Chambers, next to Stewart' & Co.'s new store.

References can be had from several hundred families, also to the medical faculty of the city. 10tf

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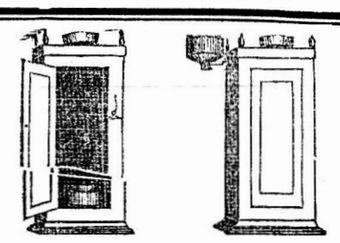

Locke's Portable Shower Bath.

THE subscriber has the satisfaction to announce to the public, that he has perfected, and is prepared to furnish at short notice, a portable shower-bath, far superior in utility and convenience of management, to anything of the kind hitherto offered. It constitutes a light and genteel article of furniture for a bed-chamber, and so perfectly constructed, that either a lady or gentleman can at any moment enjoy a copious shower without the id of servants, and withodt having a drop of the water sprinkled on the carpet or floor. And by a slight change in a part of the apparatus, the same may be converted to a steam-bath, either plain or aromatic. These baths are manufactured and may be examined at No. 31 Ann st.

JOHN LOCKE.
Dec 4. 12to52*

Valuable Books.

Just Published
By EDWARD WALKER, 114 Fulton st.

ROMANISM vs. THE BIBLE.

"It is our belief that ten thousand copies will be sold in less than six months."—Knickerbocker, Sep., 1845.

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With 52 engravings, in various bindings.

In the short space of six months, this beautiful and popular work has reached its tenth edition—this is altogether unparalleled in the history of American book-making. Every American Protestant should furnish himself with a copy of this faithful history of Romanism.—Price $3.

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THE STATESMAN'S MANUAL.

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Just published, the *fourteenth edition* of this truly popular work,—price $2,50.

KNOWLEDGE IS POWER.

Just published, the *tenth* edition of the "People's Guide to Knowledge:"—price $2 50.

THE MISSIONARY MEMORIAL—Price $2.

Pictorial History of the Revolution,
with numerous plates, extra gilt,—price $2.

NEAT AND ELEGANT
Book-binding,

E. WALKER, 114 Fulton st.,

Respectfully informs his friends, and the public in general, that he has made extensive preparations for binding the "Harpers' Illuminated Bible," in beautiful and costly pictorial bindings.

Persons collecting six copies of this Bible, and forwarding them to the subscriber, with directions, will receive the binding of one copy gratis.

Wanted, in every town and village in the United States, responsible men to procure subscribers, and engage in the sale of the above works, to whom a very liberal per centage will be allowed.—address E. WALKER, 114 Fulton st.

*** Country newspapers, copying the whole of this advertisement, and giving it six inside insertions, shall be entitled to a copy of any one of the above works,—all who may comply with the above terms, will please send a copy of the paper, each time of insertion, to the publisher, E. WALKER, 114 Fulton st., New York. 22tf.

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No. 102 William Street, New York.
Manufacturer of the
CELEBRATED MAGIC RAZOR STROP
of four sides.
Also, Pocket Books, Wallets, &c.
On the most extensive scale.

L. C.'s facilities for manufacturing Pocket Books, or Wallets, for the supply of those wholesale dealers who buy to sell again by the gross or dozen, are unequalled, he having employed for the last ten years from 50 to 270 workmen. His present well regulated system of *division of labor*, enables him to supply these articles at a very great reduction, at least one third less than former prices.

Strops retailed at from 50 cents to $1,00 each, varying only in outward finish and size—warranted to please or the money returned. 19tf

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BENTLEY'S PATENT TUBULAR STEAM BOILERS.

These boilers offer the following advantages, viz. Cheapness, small consumption of fuel, require but little room, and are set up without masonry or brick work. For sale by SAMUEL C. HILLS,
35to48x Patent Agent, 12 Platt st.

LAP-WELDED
Boiler Flues.

16 feet long, and from 1½ inches to 5 inches diameter, can be obtained only of the

PATENTEE,
THOS. PROSSER,
33tf 28 Platt street, N.Y.

THE SCIENTIFIC AMERICAN,

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Persons wishing to subscribe have only to enclose the amount in a letter directed (post paid) to

MUNN & COMPANY,
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